DOCUMENT RESUME

ED 056 826 RE 003 661

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TITLE Early Intervention for the Disadvantaged: Does It Influence Reading Achievement?
PUB DATE Apr 71
NOTE 19p.; Paper presented at the meeting of the International Reading Association, Atlantic City, N.J., Apr. 19-23, 1971

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Community Involvement; *Compensatory Education Programs; Conference Reports; Cultural Disadvantagement; *Disadvantaged Youth; *Early Experience; Intelligence; *Intervention; Learning Disabilities; *Literature Reviews; Parent Participation; Program Effectiveness; Program Improvement

ABSTRACT

Deprivation may take many forms: malnutrition, understimulation or overstimulation, limited language or social-emotional experiences, and others. The more extended the time of the deprivation, the greater the problem of amelioration. Research has shown that children who experienced deprivations do respond to early intervention and improve their performance. Intervention may take many forms and to some extent depends on the observed deprivation or assumed deficit. However, the outstanding intervention programs have in common clearly stated objectives, curricula consistent with objectives, high professional-paraprofessional ratio, individual instruction and attention, and parent involvement. Three exemplary programs are the Demonstration and Research Center for Early Children in Nashville, Tennessee; the Institute for Developmental Studies in New York; and Learning to Learn in Jacksonville, Florida. One persistent problem concerns the long-range impact of programs. In order to gain permanent results, we should (1) find ways to develop the children's intelligence instead of merely teaching them skills; (2) seek the help and cooperation of parents, as well as the involvement of the entire community; and (3) initiate follow-through programs to provide a continuity of good programs. (AW)

ED056826

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Implications of Some Current Issues and Practices for The Reading Teacher

Early Intervention for the Disadvantaged: Does It Influence Reading Achievement?

(Background Information and Research)

Deprivation and Early Intervention

Justification for early intervention in the learning and development of disadvantaged children derives from research both on the effects of early deprivation and on the significance of the early years for future learning and development.

Kinds of Deprivation

Regardless of whether the research represents a developmental, experiental, or interaction theoretical framework, whether it posits an environmental, genetic or interaction causation of learning and development, the findings generally agree that deprivation is involved in the poorer academic performance of disadvantaged children. Deprivation may derive from malnutrition. The correlation between malnutrition and poor learning is well documented. (2), (9), (13). What remains to be answered is the effect of food intervention on the learning behavior of children at different ages with different food programs. Studies addressed to these issues are in progress at Tulane University. (9)

Deprivation may derive from understimulation or overstimulation. The effects of stimulation deprivation are especially well documented

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in animal studies. We have established a causative relationship in the animal studies while we have only a correlational effect in research with humans. (14). Obviously we are not going to deprive humans of stimulation over long periods of time to determine the causative effect on learning. Assuming a causative relationship for purposes of intervention, we still need to know what kinds of stimulation are desirable for subsequent learning and at what ages such interventions are most effective. We are speaking, of course, of stimulating the child to attend to his environment, to respond to it, and to act on it.

Deprivation may derive from limited language experiences. These limitations include contextual more than universal language; communication through gesture more than through words; and language for control rather than stimulation of children. (4), (8). The argument that children from low-income groups have a rich vocabulary and communicate well with each other is a valid one. (1). The argument, however, does not negate the limitations identified nor does it answer to the fact of poorer language performance in the schools as measured by achievement tests, particularly in reading. One currently recommended solution from linguists is to teach these children to read in dialect and gradually move to standard English. This solution has not been supported by research data and indeed violates the premise upon which the teaching of a second language rests. A second language is taught, according to these same linguists, by saturating the person with the second language. Obviously then, children should be saturated with standard American English in school at the exclusion of dialect. The proponents of teaching reading in dialect are concerned with racist attitudes toward black children and prejudice against children from low-income families. (1), (17). These concerns are legitimate, but do

not justify the professionally inconsistent stance taken by the linguists in their recommended method for teaching reading.

Deprivation may derive from limited social-emotional experiences. Children who do not receive encouragement, who do not experience continuity in human attachments, who do not build strong self-images, who do not develop a sense of competence and importance, are deprived. We may argue, and this is a valid argument, that many children, regardless of the income level of their parents are deprived in their social-emotional development. This argument ignores the fact, however, of multiple assault. (2). Children can handle a few assaults on their organism; not multiple assaults. Thus, children from middle and high income families may be given maternal substitutes for affection, may be sent to camp, and most certainly will be better treated by school personnel. Racial and ethnic prejudices, as well as a continuing antipathy toward low-income families in general, conspire to inflict multiple assaults on the children. Social-emotional deprivation results and continues.

Deprivation would not be so serious a matter if we had sufficient evidence that the effects of deprivation might be ameliorated at any time by adequate intervention of compensatory programs. But the evidence in nutrition, stimulation, language, and social-emotional experiences suggests that the more extended the time of the deprivation, the greater the problem of amelioration. Further, the developmental and interaction theories identify a clearly established sequence of cognitive development in which each step in the sequence must be developed and mastered before the next step emerges for its development. (3), (15). Accepting these theories, it becomes clear that the later the compensatory intervention, the more developmental steps must be attended for full cognitive development. The notion that there is an age and stage for specific developments and to lose the "right" time prevents full

development, is not a well substantiated notion. The experiential theoriests make a good case when they point out that with appropriate experiences, almost anyone at almost any age can learn and achieve. The only limitation would be if the organism were damaged beyond correction. Any one who has worked in Adult Basic Education programs or with High School drop-outs, or with Junior High School underachievers knows that much desired learning can occur with youth and adults who have failed to achieve previously.

Why Early Intervention?

But can we defend waiting so long? Those who place great emphasis on freeing the young child from any adult restraints or demands on the assumption that the child has the knowledge and skill to develop his potential, are naive about the devastating effects of deprivation, as well as about the critical judgment skills of children. The inner-city Blacks who reject this as smacking of a "let them be happy but under-developed" attitude have a legitimate point. Those who place great emphasis on training children at increasingly earlier ages, with behavioral modification and reinforcement best exemplifying this position, are also naive. Their naivite centers around a notion that children are only a product of experience. It extends to a blind assumption that training is generally good and desirable. They have not studied society's compulsive, over-programmed technologists. The inner-city Blacks reject this view as smacking of a "let's make them what we decide" attitude. Again, they have a legitimate point.

The fact of deleterious effects of deprivation is accepted. The time or kind of compensatory or developmental intervention is different depending on the theoretical position of learning and development held. But a case may be made for early intervention with children who are the

victims of deprivation. They need food; they need stimulation; they need language experiences; they need self-enhancement. The longer they go without these things the more disparate in their performance compared to others or compared to their own potential. (7). The price they pay as they move along in the school system and in society is only too well documented. (5).

Kinds of Early Intervention

Intervention may take many forms and is to some extent dependent on the observed deprivation or assumed deficit. No one denies the fact, for example, that starving children cannot learn. What was denied was the evidence that some children in America are, indeed, starving or so poorly nourished as to be damaged in every aspect of their growth. It took a series of exposés and a White House Conference on Food and Nutrition in December, 1969, to focus on the problem, which lead to the provision of Food Stamps as one solution. Beyond unanimity on this solution, there are different ideas of how to make up for other deprivations. Some suggest housing as the critical intervention. The argument states that if families from impoverished areas could live in better houses in better communities, they and their children would benefit by the better environment and the deprivations would be neutralized. Others support the idea of income maintenance. The argument here is that if families had a guaranteed income they would eliminate the cause of deprivation; i.e., poverty, and would no longer be vulnerable to the effects of deprivation. We do not know if either of these or both of these in conjunction will compensate for deprivation. Many millions of dollars are now being spent to test these ideas.

Housing and income maintenance reach the families and are indirect ways of affecting children who have been deprived. Head Start, by

contrast, opted for child centered comprehensive programs with parent involvement. Underlying Head Start are two assumptions: (1) children must be provided directly with health, nutrition, education, social and community services if the effects of deprivation are to be halted; and (2) parents must be involved to maximum feasible participation in programs affecting their children if the thrust toward improved child development is to be sustained. This involvement takes the form of membership on Parent Advisory Councils, volunteer services, or staff membership. They may be trained to help their children at home, and may participate in determining the contents of a Head Start program as well as in staff selection.

What all of these early intervention programs and approaches have in common is the recognition that the child's performance in school is the result of much more than limited preschool reading readiness and early school learning experiences. The programs differ on where and how to intervene.

Two new programs, however, are assuming that the poorer achievement of deprived children, particularly in reading, is primarily the result of poor teaching. Performance contracting and voucher education are both operating on the same assumption but differ in method. Performance contracting consists of a school system contracting with a firm for a guaranteed product; e.g., increases in reading scores. The companies receive money on basis of the size of the increases. Vouchers, by contract, are to be used by parents to shop around for a school they feel will do the best job in teaching their children to read and generally learn. The parents take the voucher to the school selected and the school collects against the voucher from educational funds of the authorizing body. The assumption is that releasing competitive forces and providing

profit incentives will force the schools to provide better education or will find new ways to guarantee results.

Effectiveness of Early Intervention Programs

We have no evidence yet about the effectiveness of early intervention on reading achievement in as far as the intervention is primarily housing, income maintenance, or vouchers. The Tex-Arkana performance contracting study, funded by the Office of Education, DHEW, is still undergoing challenges to the validity of test scores obtained by alleged "teaching to the test." We do have evidence about the effectiveness of early intervention programs in the school or program center, and early intervention programs involving parents in the home or both in the home and at the program center. We need to describe the major characteristics of these programs and assess them in terms of immediate effects and long-range effects on reading achievement.

Characteristics Common to Effective Programs

Almost any kind of early intervention program is better than none in terms of immediate effects. Evaluations of the impact of Head Start repeatedly showed positive effects of the Head Start experience in terms of increased scores on indices of cognitive and social-emotional development. While more impressive results are obtained by special programs, these greater results occur in each special program and are not peculiar to any particular one. David Weikart, in his comparative study of four "good" programs, found that the critical factor was how teachers used these good programs, not which program was used. (18). The outstanding programs have a number of characteristics in common which may account for their rather uniform effectiveness. These characteristics are:

1. Clearly stated objectives

   The objectives are stated within a theoretical framework whether it be developmental, experiential or interaction.

They include objectives for cognition, language and social-emotional development. Some include health and nutrition objectives. All objectives, however, are clearly stated.

2. Curricula consistent with objectives

The different curricula reflect the theoretical postures and are generally on a recognizable sequence of activities leading toward the attainment of the objectives.

3. High professional - paraprofessional ratio

The outstanding programs generally have the designer and his collaborators working directly with the children and/or with the paraprofessionals. There is usually an overloading of professionals, but this seems to contribute to the effectiveness of the program.

4. Individual instruction and attention

Greater stress is placed on individual instruction than on group instruction. When used, groups are small in size. Children are individually motivated and rewarded or individually encouraged to explore for learning, depending upon the theory of child development and learning being used. High adult/child ratios consistently occur.

5. Parent involvement

Parents may be involved by separate meetings where they discuss child development or indeed their own problems. Parents may be involved as paraprofessionals, volunteers, members of advisory councils, or they may be involved through home training programs. Their involvement is critical but the amount and form vary from program to program.

It is not clear which of these factors is most critical, is carrying

the major load, for the success of the programs. Very likely they combine in some way to assure an effective program. We do have research on the impact of individualized instruction (16), and the significance of parent involvement. (12). We also know the importance of training of professionals and paraprofessionals, but what kind and how much training are not clear.

Exemplary Early Intervention Programs

Three programs are selected from among the best developed preschool programs containing the identified characteristics. A brief description of each will disclose the variation of program while reflecting the major characteristics of all outstanding programs.

Demonstration and Research Center for Early Education (DARCEE) - This program began in 1961 in Nashville, Tennessee, under the direction of Susan Gray. It consisted of having young children 3 and 4 years old attend a summer enrichment program designed to develop their cognition, language skills, motivation, and self-image. During the winter months a home visitor retained contact with the mothers to discuss anything pertinent to the child or the family. The children who were part of this program performed better when they entered public school than non-attenders, but their advantage gradually disappeared over the years. One outstanding factor, however, was the diffusion effect on siblings of the children in the program. They showed higher performance than siblings of children not in the program.

Institute for Developmental Studies (IDS) - This program began in 1962 in New York under the direction of Martin Deutsch. It is the most extensive program in terms of years of possible involvement. A child may enter at the age of three and remain through third grade. The children generally move from low performance to average and above per-

formance during the first year and remain at that higher level for the entire time in the program. The program is an enrichment one which modifies and develops materials to fit the needs of the children. The teaching is largely diagnostic. No follow-up data are yet available to know what happens when the children leave the program.

Learning to Learn - This program is under the direction of Herbert Sprigle in Jacksonville, Florida. The program is built on a developmental sequence of growth and learning, including perceptual, language and cognitive skills, and attention to social-emotional development. Follow-up studies have revealed that children who remain in the program for two years perform better than those in the program for one year but most differences are washed out after a year or two out of the program. One interesting sidelight is that the apparent wash-out effect may more accurately be the improved learning of non-program children as a result of interaction with the program children.

Long-range Impact of Early Intervention Programs

One of the persistent problems concerns the long-range impact of programs. An early warning came six months after Head Start ended its first summer when a report showed quite clearly that most children were not maintaining the gains which resulted from the summer 1965 Head Start experience. Such a short "exposure" to a special program was a possible explanation. But when looking at the outstanding programs described above there is no clear evidence that once the children leave these program they maintain the rate of growth. What evidence is available presents quite the opposite picture. Children lose, gradually to be sure, their advantage from an outstadning program after they leave it. A number of reasons are offered for this phenomenon and some policy decisions have been made on basis of various explanations.

One reason given for the discontinuance of higher performance after

leaving the outstanding program is the poor quality of the school program into which the child goes. To provide a continuity of good program, Follow-Through was launched. Follow-Through, as you know, provides special programs for disadvantaged children from kindergarten through grade three. These began in 1967 and by 1969 the Planned Variation program took the Follow-Through programs down to the three and four year old level so that children could stay in the same program for up to five years. The Planned Variation study is assessing the effects of switching children from program to program and comparing that pattern to one in which children remain in the same program continuously. No results are yet available on the effectiveness either of Follow-Through or Planned Variation. Evaluation reports of Follow-Through are probably overdue.

Another reason given for the decrease in performance after leaving a special program is the suggestion we are focusing on the wrong things. We are teaching skills - reading, math, etc. - rather than developing intelligence. Intelligence, it is argued, usually predicts reading ability; however, it does not follow as a correlary that reading ability predicts intelligence. (11). Yet too often we teach children reading skills which result initially in higher scores both on reading and on intelligence tests. The increases, particularly in intelligence, are washed out once the child leaves the special program. We have apparently confused the teaching of skills with the stimulation of intellectual growth and, in the final analysis, it is the latter which is critical. Are there other ways to stimulate intelligence more directly? Kohlberg suggests we study Piaget for some basic guidelines.

A third reason given for the loss of growth rate when leaving even a good program is that the intervention is too late to have a "permanent" effect. Intervention, it is argued, must begin at infancy if the more or less permanent damaging effects of an impoverished environment are to be

prevented or minimized. The deprivation studies again are used as supportive evidence of the effects of early lacks in nutrition, stimulation, language, and social emotional experiences. (14). While reading obviously cannot be taught to infants nor elicited in any way, a major precursor to reading; i.e., language, may be engaged in very early to enhance the future reading behavior of children. Robert Hess (8) provides highly important information concerning the significance of the language used in the home of the young child in structuring the thought processes of the child. The effects of these home experiences are seen in the later school achievement behavior of the children.

Parent Involvement in Very Early Intervention

But if, as Kohlberg suggests, the issue is more one of attending directly to the intellectual functioning of children than to teaching skills, such as reading, the appropriateness of very early intervention seems apparent. Assuming that stimulation of intellectual functioning is basic to eventual reading performance and the acquisition of reading skills, what do studies tell us about the success of such very early intervention? We are selecting two studies because both have achieved measurable results and both involve parents. This last criterion for selection rests on the assumption that: (1) most children are at home during the first few years of life; and (2) parents are necessary adjuncts to the very early development of their children.

Parents as Tutors

Merle Karnes (10) reports impressive results in an infant tutorial program at the University of Illinois in which parents from impoverished families were trained to promote the intellectual development of their young children. The Mothers' Training Program began in 1967 with 20 mothers and their children, ranging in age from 12 months to three years. Each mother with her child generally remains in the program for two years.

The mothers meet on a regular basis as a group and learn the stimulation

skills necessary to teach their children at home. During the weekly meetings the mothers were provided a sequential educational program to use at home in stimulating the cognitive and verbal development of their children and were instructed in principles of teaching which emphasized positive reinforcement. At home they set aside a regular time for daily stimulation sessions with the child, during which time the child's curiosity and growth are stimulated by the use of various materials and toys. These include nested cans and boxes, snap and string beads, graduated rings, a formbox, masonite shapes in various colors and sizes. In addition, art materials, inexpensive books, wooden inlay puzzles, simple lotto games, toys for instructured play, and toys to demonstrate transfer of learning - a stack tower and interlocking cubes - were used. Making picture scrapbooks and "reading" them together proved a successful activity. As each new technique was introduced by the leader, new words were provided for the mother to use with her child and encourage the child to use.

Staff members made home visits at least once a month to check on the progress of the mother and child and to help solve any problems. The results are impressive. When comparing the children in the program with control children matched on race, sex, age, and demographic information, the experiental group made significant gains on both the Stanford Binet IQ and the Illinois Test of Psycholinguistic Abilities.

Parents as Child Stimulators

The second program described is that of Ira Gordon at the Institute for Development of Human Resources at the University of Florida. His project concerns early child stimulation through parent education. The stimulation exercises are described and interpreted by him as follows: (6:6-8 passim)

The Stimulation Exercises (Series Materials) were originally developed in 1966-67 and modified slightly on the basis of the first year's experience. They were designed to be concrete and specific and to include not only a "task"

for the infant to do but also instructions to the mother as to ways to engage her child in the activity. Basically, the series materials reflected our attempts to engineer knowledge about the sensory-motor period contained in the work of Jean Piaget. We developed items that would relate to object permanence, eventual conservation of liquids and mass, the organization of body schema.

Our belief was that the provision of experiences which require adaptation through accommodation will lead to modification of development and greater cognitive organization than what might be expected from purely "natural" or "spontaneous" growing-up in a culturally-deprived environment. The development of intellectual structure and self-esteem are functions of organism-environment transaction. Manipulation of the environment offers a way to modify development. Therefore, we selected or devised exercises which we assumed went beyond the evaluation of status and involved the introduction of instruction and experience.

We included only those tasks we deemed simplest to carry out and evaluate. We eliminated those requiring a sophisticaed observer to assess accurately infant responses to the stimuli because neither our Parent Educators nor the mothers would be able to determine "success." In addition, we selected only such tasks in which either no material objects were necessary or where such objects could be found in culturally disadvantaged home, easily made or procured.

Because our position is that the most significant setting for infant learning is one in which there is a positive emotional climate, we attempted to include in the instructions to the mother the importance of treating these tasks as games and fun, thereby helping the child to develop positive feelings toward his mother and toward doing the tasks.

Our assumption was that a systematic Piagetian sequential arrangement of tasks presented in an orderly fashion would lead to cognitive growth along with personal feelings of adequacy. However, the instructions to Parent

Educators were that they were not to present the tasks within a series but were to take into account the individual performance of the infant: there were no set rules that task IV:3 must follow IV:2. Generally, tasks within a particular series were completed before the next series was introduced. The pattern was to present the child with a series, find out what he could do, and make this task the entry point for the other items in the series. When he was successful in these tasks, in the judgment of the mother and the Parent Educator, the next series was then introduced. In this way the mother and the Parent Educator jointly determined the rate of progress of the child and the particular sequence which he followed.

Further, from our review of the work of language researchers, we included labeling and action words designed to increase the number and type of words used by the mother with the child. The verbal stimulation materials involve a change in speaking habits of the mother. We felt that verbal stimulation would be an important phase of improving the mother-child transaction.

We included instructions to call the baby by name and to describe objects because it is in the area of descriptive adjectives and abstract terms that vocabularies are likely to be inferior. To some degree, the verbal elements in these series were the most crucial in our thinking. We felt that the use of verbal cues accompanying other tasks would play a vital role in language development.

The results are impressive as measured by gains on the Griffiths Mental Development Scales, but Gordon points out at least three problems still facing researchers in this area. These problems are part of the empirical and theoretical gap between the generalization and the systematic implementation of procedures to foster development: (1) the timing and

amount of intervention are unknown quantities; (2) neither the nature of the experiences which serve to stimulate development nor their sequences is fully understood; and (3) the interplay of family climate and task is not clear. (6:1-2). An additional problem which well might be included is the long range impact of various programs begun at various times. We need to place more importance on longitudinal studies which are best able to get at this long range impact problem.

Summary and Conclusions

Briefly, then, we have said that children who experienced deprivations do respond to early intervention and do perform better on reading achievement tests than children not in programs. We even know what some of the critical elements of good intervention programs are. But we do not know how long a child must stay in a program nor how early an age he must enter to bring about "permanent" improvements. We have some idea that improving intellectual functioning through very early intervention, especially involving the mother, may be an important path to pursue, since the mother is a critical change-agent as the family attempts to compensate for deprivation and move out of poverty. Educators in general and schools in particular are not yet geared to work with parents as partners in the education of children and continue to resist their involvement. The parent involvement found in Head Start and Follow-Through was legislated. The recent regulation for parent involvement in Title I programs was not received with enthusiasm by school systems. This lack of coordinated efforts between parents and educators raises the issue of how to train teachers and parents to cooperate in efforts to educate young children both at pre-school and early school levels. An even more pervasive issue needs attention: How is the entire community involved in eliminating various kinds of deprivation and providing necessary compensating services? A child does not learn to

read in a vacuum. He is part of a family, a community, and a nation. He learns to read within the provisions for development and learning made available by these parts of his environment. What is needed from the various parts of the environment to initiate and sustain reading achievement? An examination of the kinds of deprivation identified earlier will suggest what institution or group can help, but more important would be a cooperative community effort to deal with the child's environment so that it would enhance his development and learning behavior.

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